REMARKS

Claims 1-7 are pending and under consideration in the above-identified application.

In the Office Action dated November 12, 2008, the Examiner rejected claims 1-7.

With this Amendment, claims 1 and 5 were amended and claims 4 and 7 were cancelled. No new matter has been introduced as a result of the amendments.

I. 35 U.S.C. § 103 Obviousness Rejection of Claims

Claims 1 and 4 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Nagura et al. (JP 2002 373643) in view of either Hisashi et al. (U.S. Publication No. 2005 0153205), Fujimoto et al. (U.S. Publication No. 2004 0058245), Park et al. (U.S. Publication No. 2002 0136955) or Masaki et al. (JP 2001 015101). Applicants respectfully traverse this rejection.

Claim 1 requires an active material that includes base particles of a lithium oxide compound and a transition metal with a coating layer made of an inorganic compound and a carbonaceous material. Claim 1 also requires a weight ratio between the base particle compound and the coating, which is 98:2 to 70:30 and that is represented by the formula A: (B+C), where A is the weight of the compound oxide, B is the weight of the inorganic compound and C is the weight of the carbonaceous material. As discussed in the specification, the weight ratio of the compound oxide particles to the coating layer ensures coatability and improved performance. Specification, page 9. Specifically, if the ratio of B+C is below the range, the layers exhibit poor coatability and the improvement of the high-temperature characteristics is insufficient and if the ratio is greater than the required range, the transfer of lithium ions is impaired. *Id.* at 9-10.

Nagura et al. teaches a coating layer made of an inorganic lithium compound and a carbonaceous conductive material. Nagura et al., paragraphs [0010]; [0015] & [0023]. The

Examiner stated that Nagura et al. also teaches a weight ratio of the compound oxide particles to the coating layer. Office Action, page 3. Applicant respectfully disagrees.

Nagura et al. provides examples of the active material with specific weights of the components. Nagura et al., paragraphs [0027], [0033], [0044]. Nagura et al. does not teach or even fairly suggest a relationship between the weights as required by the claims, which balances coatability with improved high-temperature characteristics. A parameter must first be recognized as a result-effective variable before the parameter can be optimized through routine experimentation. *In re Antonie,* 559 F.2d 618 (CCPA 1977). Accordingly, Nagura et al. fails to teach or even fairly suggest the weight ratio range required by the claims.

The Examiner also cited Hisashi et al., Fujimoto et al., Park et al. and Masaki et al. to for the purpose of stating that mechanofusion is a technique known to those skilled in the art. However, none of the cited references teach using mechanofusion to form a coating that includes an inorganic compound and a carbonaceous material. Hisashi et al. teaches the method to attach carbon to lithium. Hisashi et al. paragraph [0046]. Fujimoto et al. teaches providing a metal layer incapable of alloying with lithium on lithium via mechanofusion. Fujimoto et al. paragraph [0019]. Park et al. teaches mechanofusion of a manganese compound with a simultaneous a heat treatment to remove defects in the manganese compound. Park et al, paragraphs [0035], [0037]. Masaki et al. teaches mechanofusion of a conductive material to form a coating. Masaki et al., Abstract. As such, although the technique was known, the applications of the technique vary within the prior art. Furthermore, none of the cited references used the technique to create a coating with two or more components as required by the claims.

Accordingly, taken either singularly or in combination with each other, the cited references fail to teach or even fairly suggest all the requirements of the claims 1 and 4. Thus,

claims 1 and 4 are patentable over the cited references. As such, Applicants respectfully request the above rejection be withdrawn.

Claims 2 and 3 were rejected of as being unpatentable under 35 U.S.C. § 103(a) in part over Nagura et al. in view of either Hisashi et al., Fujimoto et al., Park et al. and Masaki et al. As discussed above, the cited references do not teach or even fairly suggest all the requirements of independent claim 1. Accordingly, dependant claims 2 and 3 are patentable over the cited references for at least the same reasons. As such, Applicants respectfully request that the above rejection be withdrawn.

Claims 5 -7 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Nagura et al. in view of either Hisashi et al., Fujimoto et al., Park et al. or Masaki et al. in view of either Yamaura et al. (U.S. Patent No. 4,668,594); Takada et al. (U.S. Patent No. 5,958,281) or Mohwald et al. (U.S. Patent No. 6,475,663). Applicants respectfully traverse this rejection.

Claim 5 requires a nonaqueous electrolyte secondary battery that includes an active material having base particles of a lithium oxide compound and a transition metal with a coating layer made of an inorganic compound and a carbonaceous material. Claim 5 also requires a weight ratio between the base particle compound and the coating, which is 98:2 to 70:30 and that is represented by the formula A: (B+C), where A is the weight of the compound oxide, B is the weight of the inorganic compound and C is the weight of the carbonaceous material. Additionally, Claim 5 requires that the inorganic compound includes a compound oxide of at least one lithium oxide compound that is selected from $LiFePO_4$ and Li_3PO_4.

As discussed above, Nagura et al. fails to teach or even fairly suggest a relationship between the weights as required by the claims, which balances coatability with improved high-temperature characteristics. Additionally as discussed above, Hisashi et al., Fujimoto et al., Park

et al. and Masaki et al teach various applications of mechanofusion, but do not specifically teach a coating that includes two components, which is mechanofused onto a particle as required by the claims.

The Examiner cited Yamaura et al., Takada et al. and Mohwald et al. for the purpose of showing that lithium iron phosphate and lithium phosphate are known conductive materials. However, none of the references teach or even fairly suggest that lithium iron phosphate and lithium phosphate may be effective components of a coating as required by claim 5. For example, Yamaura et al. teaches a non-aqueous electrolyte that may include the solid electrolyte Li_3PO_4. Yamaura et al. Col. 5, lines 34-37. Additionally, Takada et al. teaches Li_3PO_4 as a dopant for lithium ion-conductive solid electrolytes composed of a sulfide glass and Mohwald et al. teaches a composition for an electrochemical cell that contains 0 to 1% of a pigment, which may be an inorganic solid such as $LiFePO_4$. Takada et al., Col. 1, lines 40-46; Mohwald et al., Col. 1, lines 6-14; Col. 3, line 15; Col. 4, lines 5-7 & lines 43-66.

Accordingly, taken either singularly or in combination with each other, the cited references fail to teach or even fairly suggest all the requirements of the claims 5 and 6 (claim 7 is cancelled with this amendment). Thus, claims 5 and 6 are patentable over the cited references. As such, Applicants respectfully request the above rejection be withdrawn.

II. Conclusion

In view of the above amendments and remarks, Applicants submit that all claims are clearly allowable over the cited prior art, and respectfully requests early and favorable notification to that effect.

Respectfully submitted,

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